Mr. John Harden
Nucor Fastener
P.O. Box 6100
Saint Joe, Indiana 46785

Re: 033-15833
2nd Notice-Only Change to
MSOP 033-11203-00038

Dear Mr. Harden:

Nucor Fastener was issued a permit on April 4, 2000 for a stationary nut and bolt manufacturing plant. A letter notifying the Office of Air Quality of the following modification was received on April 8, 2002. Pursuant to the provisions of 326 IAC 2-6.1-6(d) the modification which has a PTE below the thresholds under Section (g)(4), Minor Revisions and that does not have applicable requirements qualifies as "minor administrative change in descriptive information concerning the source or emission unit or units" under the Notice-Only Change". Therefore, the permit is hereby revised as follows. Additions are bolded and deletions are struck-through for emphasis:

Request 1: Nucor Fastener plans to modify its fastener manufacturing plant by replacing six (6) burners (each burner rated at 0.2 mmBtu/hr; total of 1.2 mmBtu/hr) in one of the existing hardening furnaces with six (6) new low Nox burners (each burner rated at 0.75 mmBtu/hr; total of 4.5 mmBtu/hr).

Response 1: Section A.2, Item (j) on Page 5 of 28 and Section D.1 emission units description table on Page 17 of 28 of the MSOP will be revised to incorporate the changes as follows:

(j) One (1) natural gas fired heat treat furnace, including one (1) batch furnace, two (2) hardening furnaces, replaced 6 (six) new low NOx burners (each burner rated at 0.75 MMBtu/hr) in ~~one~~ **both** of the hardening furnaces, five (5) draw furnaces and two (2) washers, total heat input capacity: ~~7.85~~ **11.15** Million Million British thermal units per hour.

All conditions of the permit shall remain unchanged and in effect. Please attach a copy of this letter and the following revised permit pages to the front of the original permit.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact Aida De Guzman, at (800) 451-6027, press 0 and ask for Aida De Guzman or extension (3-4972), or dial (317) 233-4972.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

Attachments
APD
cc: File - DeKalb County
U.S. EPA, Region V
DeKalb County Health Department
Northern Regional Office
Air Compliance Section Inspector - Doyle Houser
Compliance Data Section - Karen Nowak
Administrative and Development - Janet Mobley
Technical Support and Modeling - Michele Boner

CONSTRUCTION PERMIT
and MINOR SOURCE OPERATING PERMIT
OFFICE OF AIR QUALITY

Nucor Fastener
6730 County Road 60
Saint Joe, Indiana 46785

(herein known as the Permittee) is hereby authorized to construct and operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this permit.

This permit is issued to the above mentioned company under the provisions of 326 IAC 2-1.1, 326 IAC 2-5.1, 326 IAC 2-6.1 and 40 CFR 52.780, with conditions listed on the attached pages.

Operation Permit No.: MSOP 033-11203-00038	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: April 4, 2000

First Notice-Only Change No.: 033-13694, issued on April 25, 2001

Second Notice-Only Change: 033-15833	Pages Affected: 5, 17, 18
Issued by:Original signed by Paul Dubenetzky Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: April 24, 2002

(i) One (1) natural gas fired heat treat furnace, including one (1) batch furnace, one (1) hardening furnace and two (2) draw furnaces, total heat input capacity: 7.72 million British thermal units per hour.

(j) One (1) natural gas fired heat treat furnace, including one (1) batch furnace, two (2) hardening furnaces, replaced 6 (six) new low NOx burners (each burner rated at 0.75 MMBtu/hr) in both of the hardening furnaces, five (5) draw furnaces and two (2) washers, total heat input capacity: 11.15 Million Million British thermal units per hour.

(k) One (1) sulfuric acid pickling facility, exhausting to stack EP63, with an acid recovery system, capacity: 32.4 tons of steel per hour and 175,000 tons of steel per year.

(l) Twenty-one (21) bolt making machines, including coolant and oil lubricate usage, with bolt making machines emissions controlled by three (3) wet venturi scrubbers, total capacity: 27.2 tons of steel per hour.

(m) Six (6) nut forming machines, including coolant usage, total capacity: 1.27 tons of steel per hour, 30.4 tons of steel per day and 10,000 tons of steel per year.

(n) One (1) tumble blaster, EP61, exhausting to a baghouse, capacity: 1.27 tons of steel per hour, 30.4 tons of steel per day and 10,000 tons of steel per year.

(o) Eight (8) bolt and nut formers, using lubricant and cooling oil, equipped with oil mist collection systems, total usage: 37,500 gallons of oil per year. .

(p) One (1) natural gas fired boiler, identified as EP54, capacity: 8.37 million British thermal units per hour.

(q) Four (4) hardening and tempering furnace pairs, identified as EP64 through EP67, using pre-wash, quench oil and rust preventative, capacity: 5.8 million British thermal units per hour, each pair.

(r) Three (3) endothermic gas generators, identified as EP68, capacity: 0.3 million British thermal units per hour, each.

(s) One (1) wash line, using a maximum of 1,733 gallons of rust preventative per year.

(t) One (1) wax line, using a maximum of 2,250 gallons of rust preventative per year.

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(a) Seventy-three (73) natural gas fired space heaters, total capacity: 8.3 million British thermal units per hour.

(b) Nine (9) natural gas fired air makeup units, total capacity: 56.2 million British thermal units per hour.

(c) One (1) natural gas fired boiler, constructed in 1994, using liquid propane gas as a backup fuel, capacity: 9.807 million British thermal units per hour.

(d) Four (4) natural gas fired annealing furnaces, total capacity: 27.6 million British thermal unit per hour.

(e) Three (3) natural gas fired annealing furnaces, capacity: 5.94 million British thermal units per hour, each, and 113,400 pounds of metal per batch, each.

(f) One (1) natural gas fired heat treat furnace, including one (1) belt furnace, one (1) hardening furnace and one (1) draw furnace, total heat input capacity: 18.35 million British thermal units per hour.

(g) One (1) natural gas fired heat treat furnace, including one (1) belt furnace, one (1) hardening furnace and one (1) draw furnace, total heat input capacity: 7.70 million British thermal units per hour.

(h) Two (2) natural gas fired heat treat furnaces, including two (2) belt furnaces, two (2) hardening furnaces and two (2) draw furnaces, total heat input capacity: 18.1 million British thermal units per hour.

(i) One (1) natural gas fired heat treat furnace, including one (1) batch furnace, one (1) hardening furnace and two (2) draw furnaces, total heat input capacity: 7.72 million British thermal units per hour.

(j) One (1) natural gas fired heat treat furnace, including one (1) batch furnace, two (2) hardening furnaces, replaced 6 (six) new low NOx burners (each burner rated at 0.75 MMBtu/hr) in both of the hardening furnaces, five (5) draw furnaces and two (2) washers, total heat input capacity: 11.15 Million Million British thermal units per hour.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-6.1-5(1)]

D.1.1 Particulate Matter (PM) [326 IAC 6-2-4]

(a) The two (2) boilers, constructed in 1994, shall be limited to PM emissions of 0.55 pound per million British thermal unit. This limitation was computed using the following equation:

$$Pt = 1.09/Q^{0.26}$$

where:

Pt = Pounds of particulate matter emitted per million British thermal units (lb/MMBtu) heat input

Q = Total source maximum operating capacity rating in million British thermal units per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used.

(b) The requirement from Condition 4 of CP 033-2787-00038, issued on January 28, 1994, requiring that particulate matter emissions from the heating equipment shall comply with 326 IAC 6-2 (Particulate Emission Limitations for Sources of Indirect Heating), thus limiting particulate matter emissions from all the combustion equipment to 0.31 pounds per million British thermal unit heat input, is not applicable because the requirements of 326 IAC 6-2 are only applicable to the boilers, not to the direct heating units at this source.

D.1.2 Minor Source Operating Permit [326 IAC 2-6]

The requirement from Registration CP 033-10644-00038, issued on April 6, 1999, requiring that any change or modification which may increase the potential nitrogen oxide emissions to 25 tons per year or more from the equipment covered in the registration (sulfuric acid pickling and three (3) annealing furnaces) must be approved by the Office of Air Quality before such change may occur, is not applicable because this is a Minor Source Operating Permit issued under 326 IAC 2-6.1.

Compliance Determination Requirements [326 IAC 2-1.1-11]

D.1.3 Testing Requirements [326 IAC 2-1.1-11]

The Permittee is not required to test these emissions units by this permit. However, IDEM may require compliance testing when necessary to determine if the emissions units are in compliance. If testing is required by IDEM, compliance with the PM limit specified in Condition D.1.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler

Company Name: Nucor Fastener
Address City IN Zip: 6730 County Road 60, Saint Joe, IN 46785
Notice-Only Change No.: 033-15833
Plt ID: 033-00038
Reviewer: Aida De Guzman
Date Application Received: April 8, 2002

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr	Hardening furnace 6 Low NOx burners @ 0.75 mmBtu/hr each
4.5	39.4	

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.037	0.150	0.012	1.971	0.108	1.656

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32
Note: Although low NOx burner has NOx Ef of 50 lb/MMCF, the source requested that 100 lb/MMCF be used in the calculations.

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).